Dart Aerospace Ltd.

Date: Wednesday, 1/18/2006 4:05:15 PM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	**Drawing Name**	: BRACKET ASSEMBLY
Job Number	: 25557A		
Estimate Number	: 10278		
P.O. Number	: N/A	**Part Number**	: D3121141
This Issue	: 1/18/2006 **S.O. No.** : N/A	**Drawing Number**	: D3121 REV C2
Prsht Rev.	: NC	**Project Number**	: N/A
First Issue	: N/A **Type** : MACHINED PARTS	**Drawing Revision**	: C2
Previous Run	: 25556A	**Material**	: N/A
Written By	: SEE COMMENT BELOW	**Due Date**	: 2/15/2006 **Qty:** 12 **Um:** Each
Checked & Approved By	: SEE ABOVE DATE & USER.		
Comment	: Est Rev:Pick:A 04.02.18 New issue KJ/DS		

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	M174B1000X02000	17-4 SS Bar

Comment: Qty.: 0.5775 f(s)/Unit Total : 6.9300 f(s)
Material: 17-4 SS Bar per AMS 5604/5643
(M17-4-B1.000x02.000)
Identify for D3121-111
Batch: M19712 MS 06/02/10

2.0	BAND SAW	BAND SAW

Comment: BAND SAW
Cut blanks: (1.000" x 2.000") 6.600" long MS 06/02/10 12 + 1

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1

Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine D3121-111 as per Folio FA361 and Dwg D3121Identify as D3121-111 SD/MS 06/02/10 12

2-Deburr ✓

3-Scribe batch number ✓

P/O

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE SD/MS 06/02/10 12

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes (No) **DQA:** DD **Date:** 06/02/13

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			
06.02.13	3.1	-part flew out of vice while machining. Damage on back side. .035deep		Scrap and destroy. + Replace	SD 06.02.13	06-02-13		06.02.13

NOTE: Date & initial all entries

Date: Wednesday, 1/18/2006 4:05:15 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** BRACKET ASSEMBLY

Job Number: 25557A **Part Number:** D3121141

Job Number:

Seq. #:	Machine Or Operation:	Description :
5.0	QC8	SECOND CHECK
	Comment: SECOND CHECK	BC 06-02-13 12
6.0	D312121	Bolt
	Comment: Qty.: 1.0000 Each(s)/Unit Total : 12.0000 Each(s) Pick: Qty Part Number Description Batch 1 D3121-21 Bolt B25456 x12	EP 06/02/24 12
7.0	D3121241	Bearing Assembly
	Comment: Qty.: 1.0000 Each(s)/Unit Total : 12.0000 Each(s) Pick: Qty Part Number Description Batch 1 D3121-241 Bearing Ass B25225 x2 B25477 x10	EP 06/02/24 x12
8.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
	Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble D3121-141 as per Dwg D3121.	EP 06/02/24 x12
9.0	QC5	INSPECT WORK TO CURRENT STEP
	Comment: INSPECT WORK TO CURRENT STEP	MS 06/02/24 x12
10.0	PACKAGING 1	PACKAGING RESOURCE #1
	Comment: PACKAGING RESOURCE #1 Identify and Stock Location:_____ ST 408	PC 6/2/27 (12)
11.0	DC	DOCUMENT CONTROL
	Comment: DOCUMENT CONTROL Inspection Level 21	(12) 06/02/27
Job Completion		06.02.27

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	25557A
Description: Bracket	Part Number:	D3121-111
Inspection Dwg: D3121 **Rev:** B1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
6.18	+/-0.030	6.180	✓			
5.90	+/-0.030	5.912	✓			
5.89	+/-0.030	5.895	✓			
~~0.019~~	~~+/-0.010~~					
~~0.320~~	~~+/-0.010~~					
0.573	+/-0.010	.580	✓			
2.14	+/-0.030	2.14	✓			
0.950	+/-0.010	.952	✓			
0.664	+/-0.010	.664	✓			
1.96	+/-0.030	1.96	✓			
0.98	+/-0.030	.98	✓			
0.280	+/-0.010	.286	✓			
3.330	+/-0.010	3.332	✓			
3.630	+/-0.010	3.635	✓			
4.580	+/-0.010	4.580	✓			
Ø0.392	+0.002/-0.000	.393	✓			
0.750	+/-0.010	.750	✓			
R0.25	+/-0.030	R.25	✓			
0.130	+/-0.010	.128	✓			
0.400	+/-0.010	.392	✓			
0.201	+/-0.010	.198	✓			
0.580	+/-0.010	.576	✓			
0.381	+/-0.010	.384	✓			
0.032	+/-0.010	.026	✓			

Measured by:	MS
Date:	06/02/10

Audited by:	[signature]
Date:	06/02/10

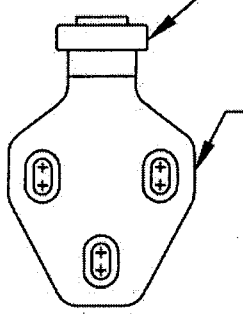
Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.01.12	New Issue	KJ/RF	

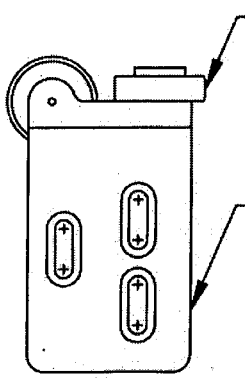
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 1 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2

A	02.04.15	NEW ISSUE
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
C	04.02.17	ADD CLEARANCE; USE -241 BEARING
C1	04.03.26	3.17 WAS 4.00; 6.11 WAS 6.14
C2	04.04.26	0.230 WAS 0.235

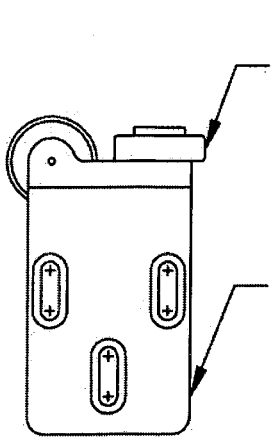
RELEASED
04.03.01



D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)

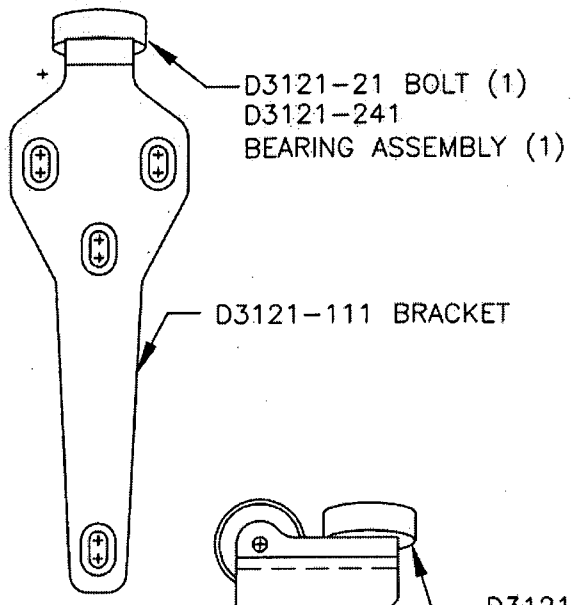


D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-37/-38)

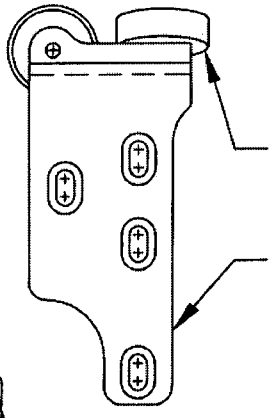


D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-35/-36)

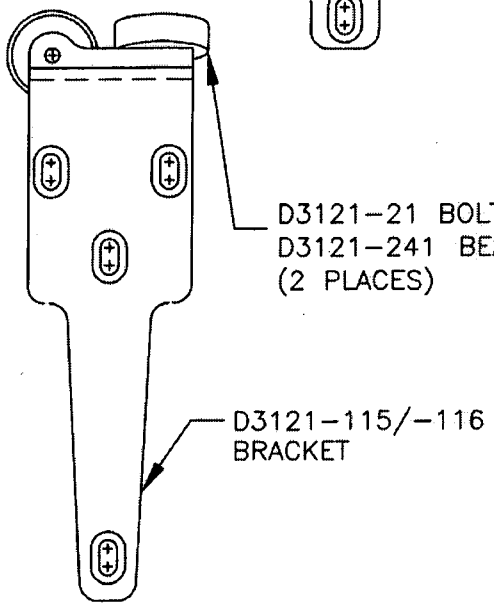
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 2 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2



D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)



D3121-143 (SHOWN) / D3121-144 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-145 (SHOWN) / D3121-146 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-05/-06)

RELEASED
04.03.01

WORK ORDER
NO 25557A

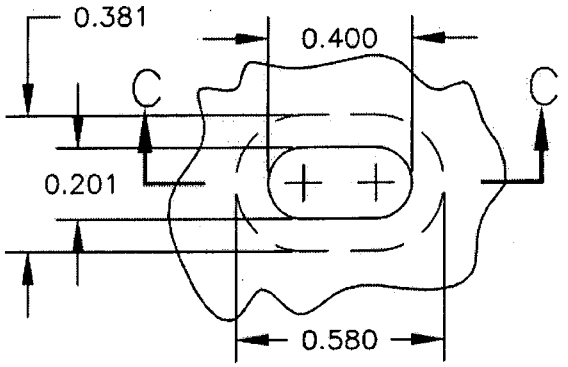
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 3 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1

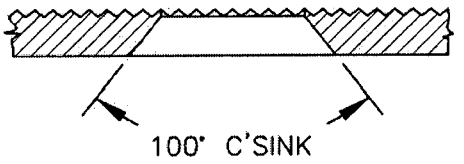
DART

COPY ISSUED

RELEASED
04.03.01

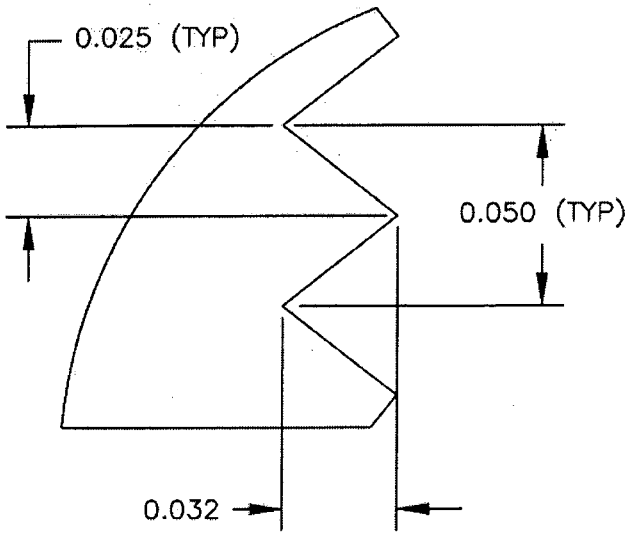
DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED





SECTION C–C

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



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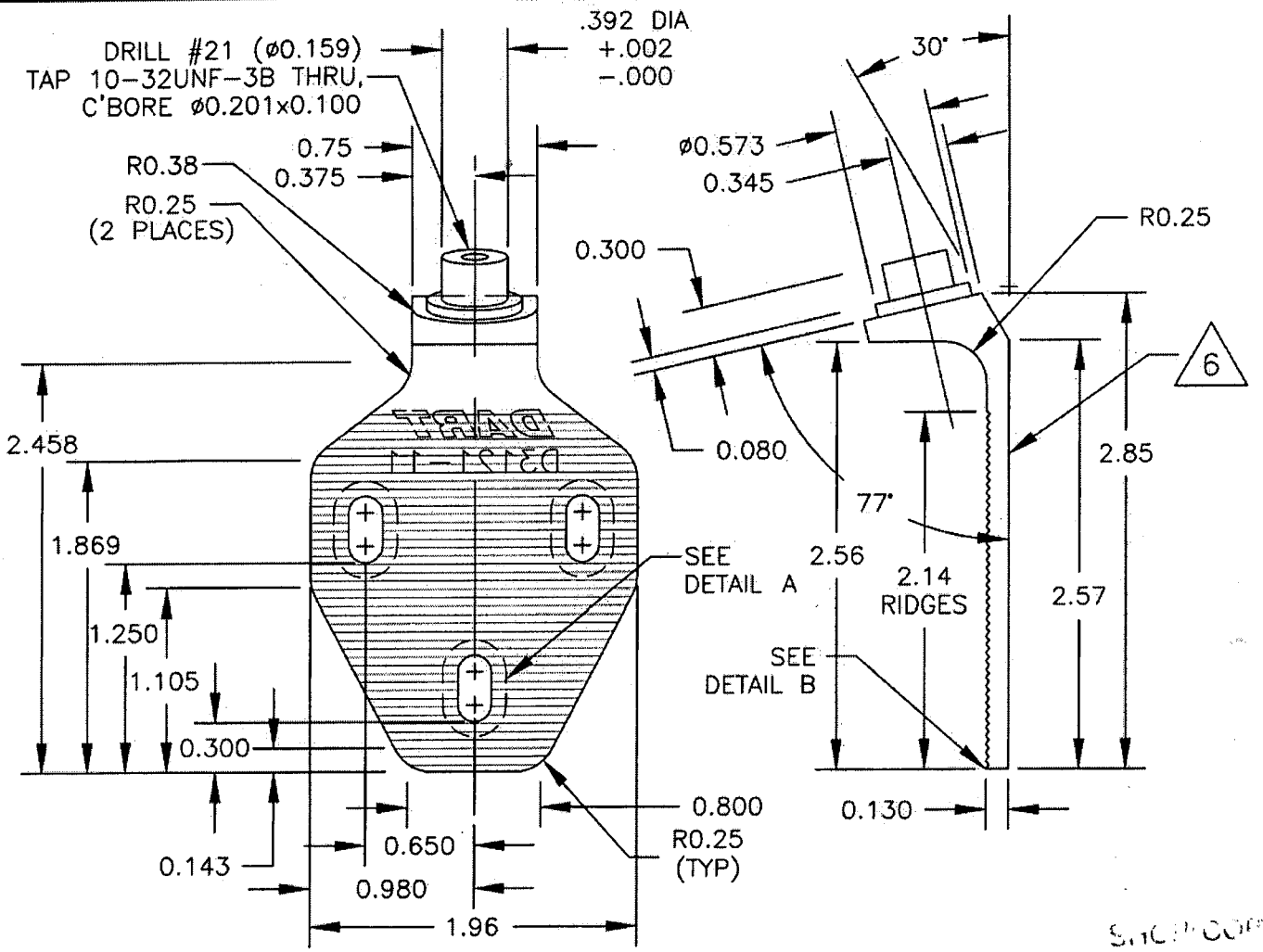
WITHOUT

WORK ORDER
NO. 255674

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 4 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N & LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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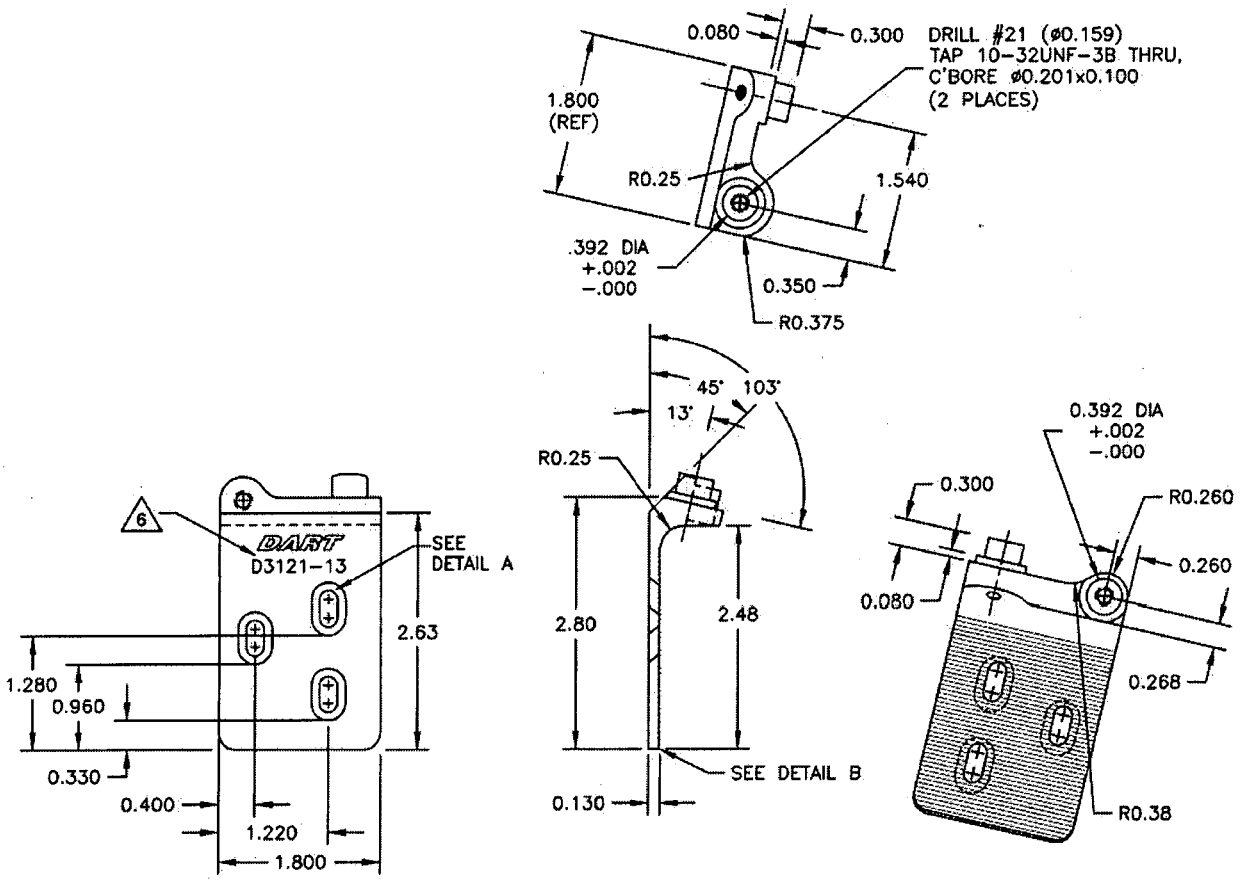
WORK ORDER
NO. 255577A

RELEASED
04.03.01

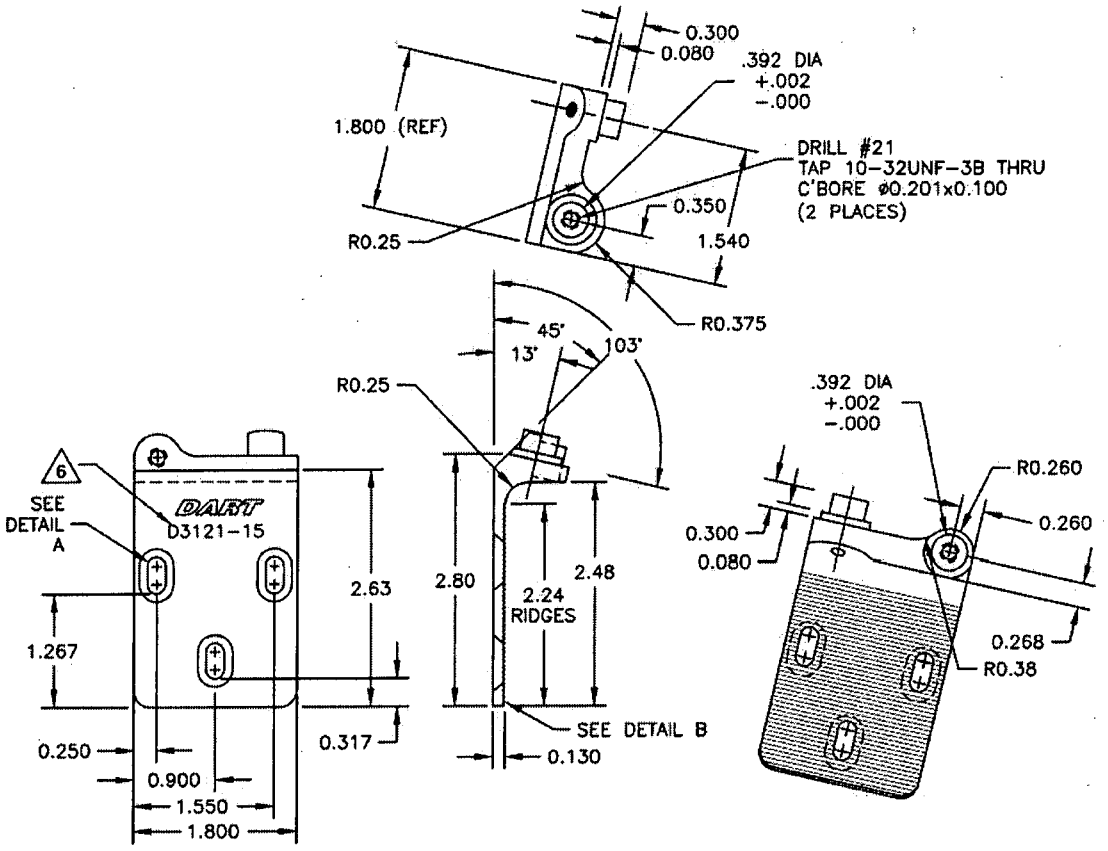
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 5 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N & LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

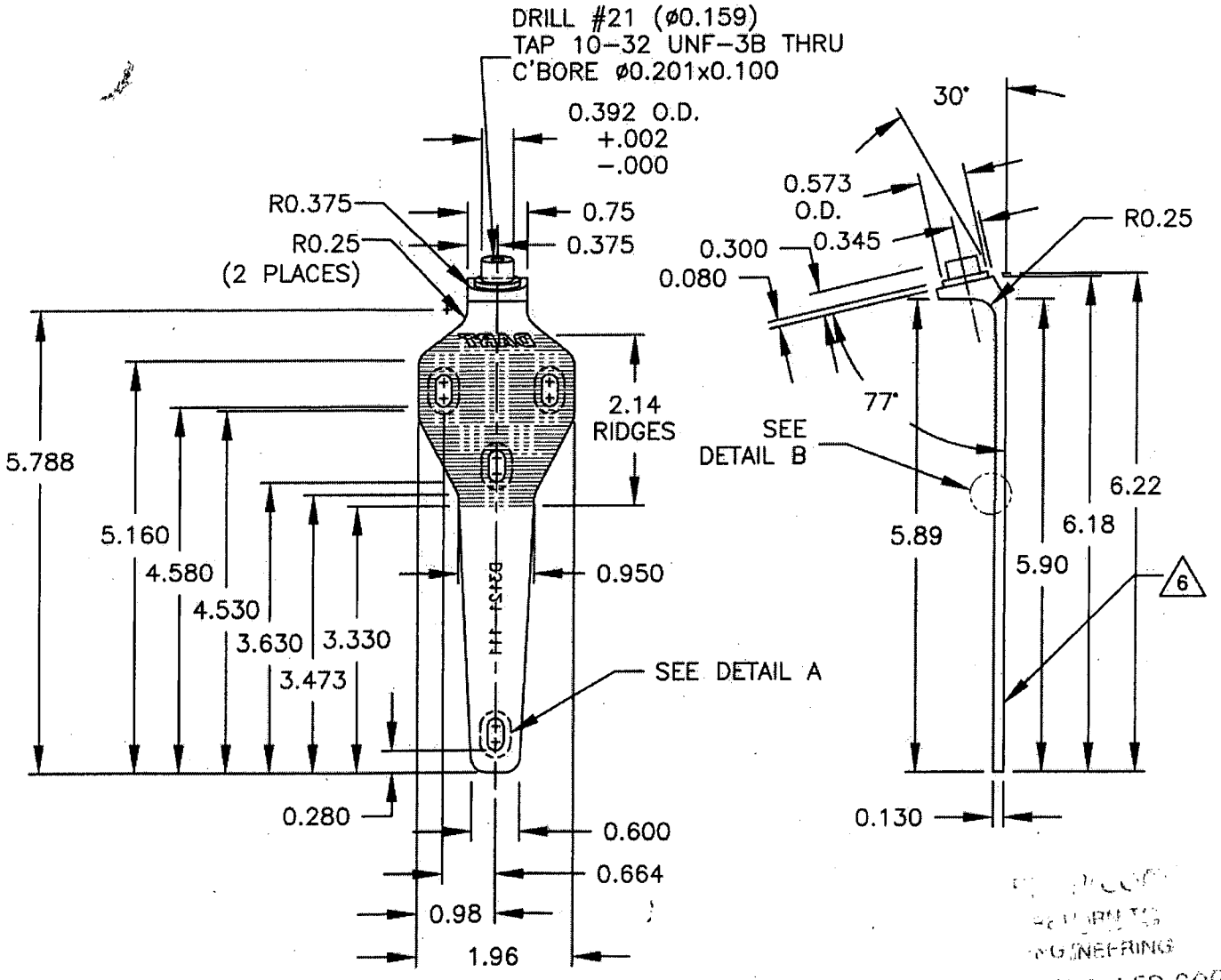
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 6 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



D3121−15 BRACKET (SHOWN)
D3121−16 BRACKET (OPPOSITE)

1) MATERIAL: 17−4 SS PER AMS 5604/5643 (REF DART SPEC. M17−4−B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N AND LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 7 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



D3121-111 BRACKET

1) REPLACES PREMIER P/N B32-23001-11
2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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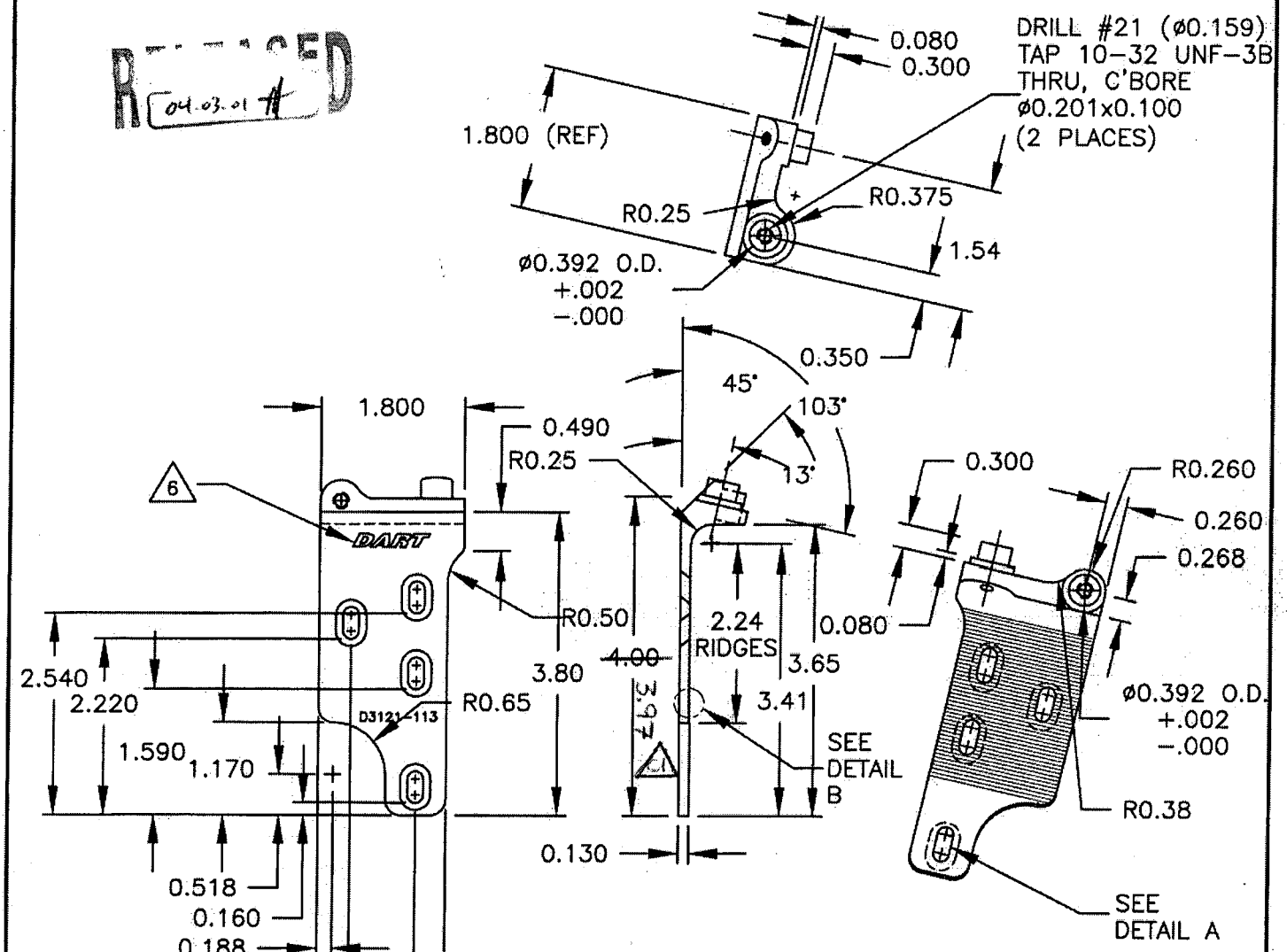
WITHOUT NOTICE

WORK ORDER
NO. 25557 A

RELEASED
04.03.01

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 8 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



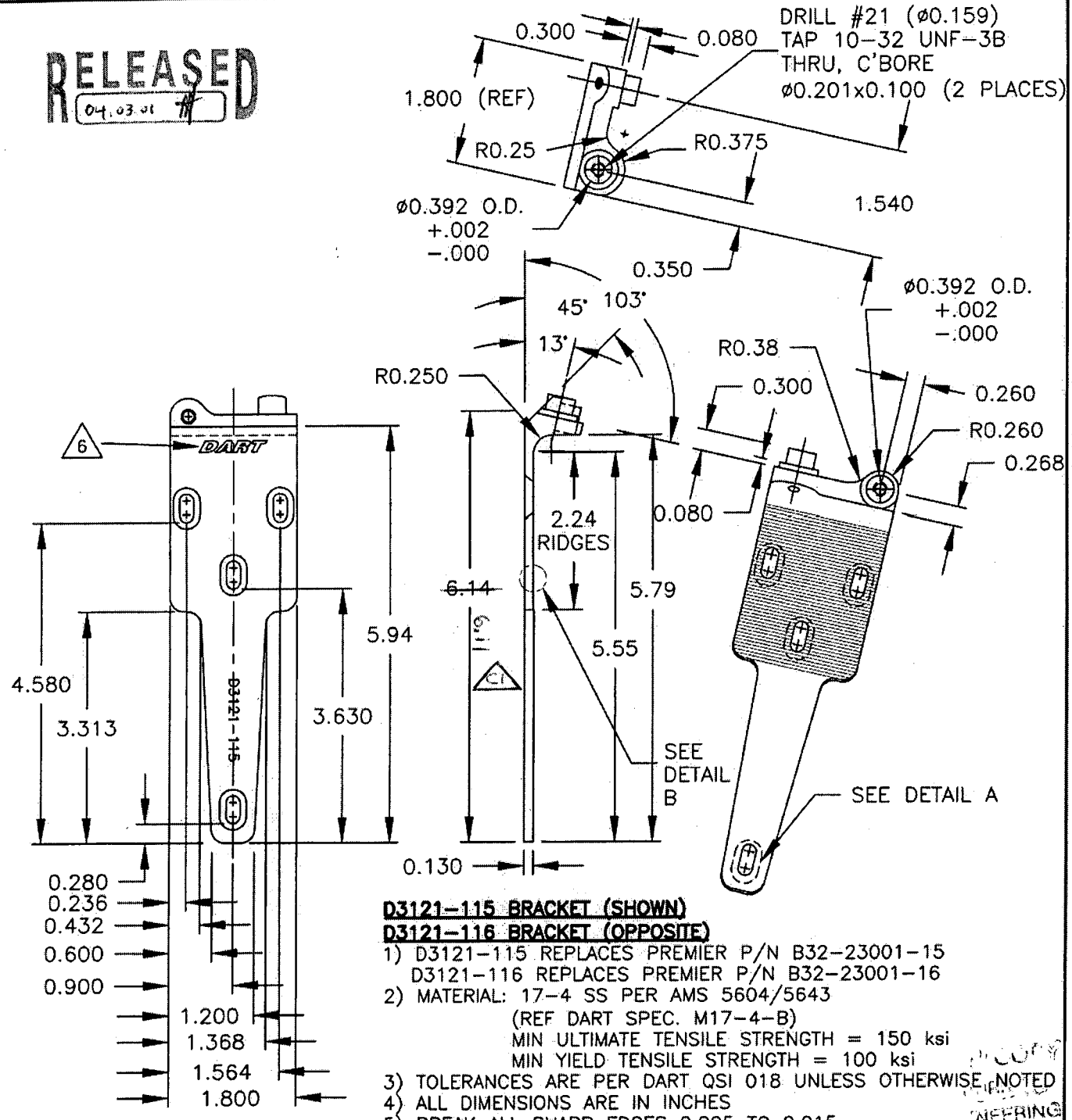
D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

1) D3121-113 REPLACES PREMIER P/N B32-23001-13
   D3121-114 REPLACES PREMIER P/N B32-23001-14
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

25557A

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 9 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
04.03.01



D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)

1) D3121-115 REPLACES PREMIER P/N B32-23001-15
   D3121-116 REPLACES PREMIER P/N B32-23001-16
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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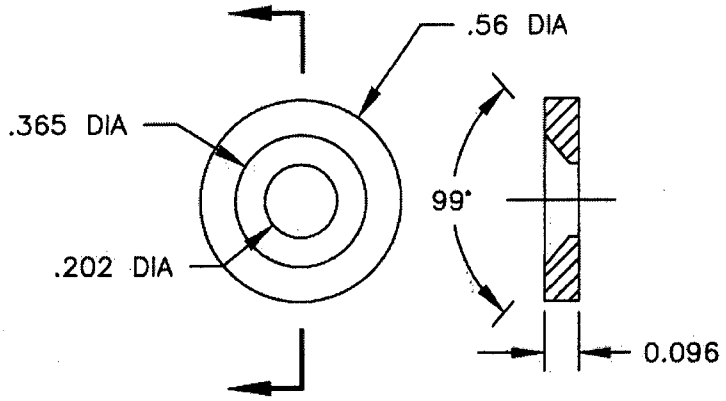
AMENDMENT
OUT NOTICE
RK ORDER
D. 255571A

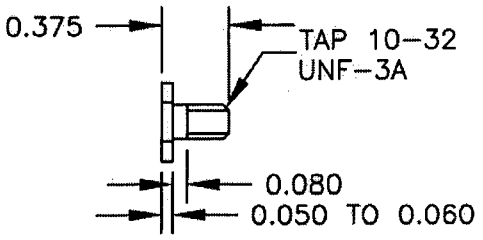
DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 10 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



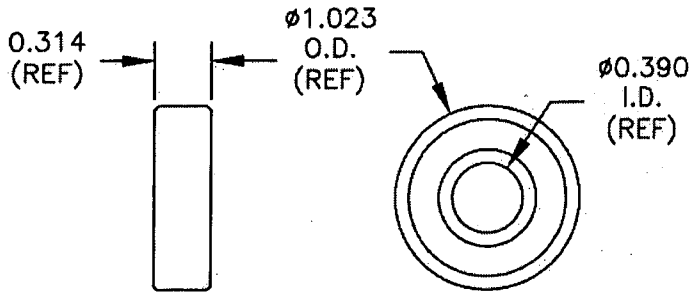
D3121-17 WASHER (SCALE 2:1)

1) REPLACES PREMIER P/N B32-23001-17
2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015



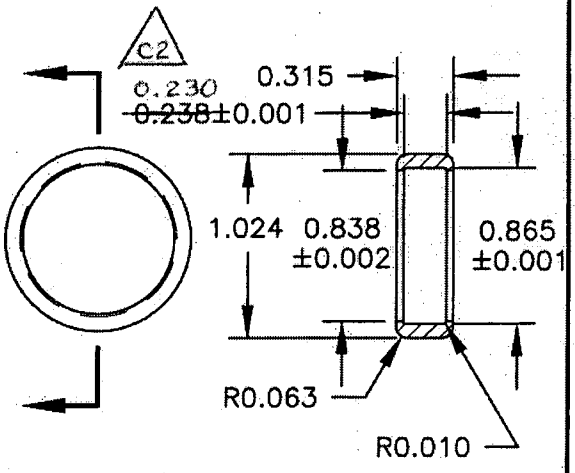
D3121-21 BOLT (SCALE 1:1)

1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
2) FINISH: NONE
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015



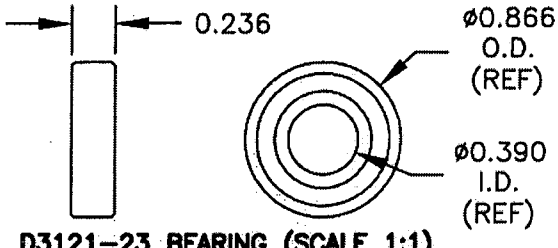
D3121-19 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
2) ALL DIMENSIONS ARE IN INCHES



D3121-25 CAP (SCALE 1:1)

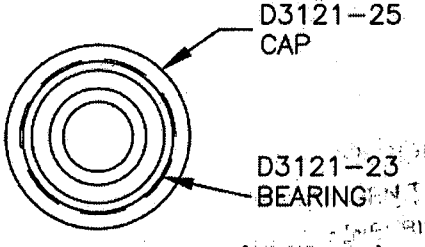
1) MATERIAL: DELRIN ROD, ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES



D3121-23 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ
2) ALL DIMENSIONS ARE IN INCHES

RELEASED
04.03.01



D3121-241 BEARING ASSEBLY (SCALE 1:1)

WORK ORDER NO 25557A